

Appl. No.: 10/662,682  
TC/A.U.: 3711 Docket No.: C03-05  
Reply to Office Action of December 23, 2005

**REMARKS**

In the specification, the paragraph beginning at page 9, line 4 has been amended to correct minor typographical error wherein Figure 7b should have been typed as Figure 13b.

Claims 57-61, 63-67, and new claim 85 appear in this application for the Examiner's review and consideration.

Claim 57 has been amended to recite the limitations of previously presented claims 58 and 68, and to emphasize that not only is the front face progressively thinner from the sole section to the crown section, but that this front face construction produces a unique combination wherein the maximum coefficient of restitution (COR) is constant even when a golf ball is hit substantially higher on the face. This is because the progressively thinner face counteracts the movement away from the center of gravity with a progressively greater spring effect.

Claim 58 has been amended to include the specifics of the test conditions that produced the unexpected spin rate to launch angle ratio less than 275. This was attributed to the uniqueness of the front face. Support for this may be found at least on page 8, lines 11-30 of the specification.

Claim 60 was amended to cite the limitations that were presented in the now cancelled claim 68.

New claim 85 was added to cite that the front face decreases not only in thickness as stated in claims 57 and 60, but also in stiffness.

Claims 1-56, 62, and 68-84 have been cancelled without prejudice to Applicants' right to file one or more continuing applications directed to any subject matter not presently claimed.

No new matter has been added by these amendments and additions.

**Rejection Over Galloway In View of Molitor**

Claims 57, 58, 63-67, and 69-72 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Galloway et al. (USPN 6,575,845) in view of U.S. Patent No. 4,762,322 to Molitor et al.

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Galloway is generally directed to a golf club head that utilizes a metal front face major body, and a lighter weight minor body preferably made from a composite material. This is the only similarity between Galloway and the present invention. The present invention is the only known golf club head that utilizes a front face that is thicker and stiffer at the bottom and progressively tapers to a thinner and less stiff face at the top section. The Examiner will discover in his search that the prior art relating to metal wood club heads will show front face center sections that are either uniform in thickness or else (as with the new breed of drivers) their center section are thicker than the surrounding areas with the center thicker section having an elliptical, oval, round, or some parallelogram type shape. The thinner surrounding areas provide some elasticity to the sweet spot area, which is generally nearer the center of the club head. While the lowering of the center of gravity is discussed in the Molitor patent, it is conceded that almost all metal wood clubs manufactured today place weights etc. to lower the overall center of gravity (as does the present invention).

The uniqueness of the present invention is not so much in the use of multiple materials or the lowering of the center of gravity, but rather a golf club head having a lowered center of gravity in combination with a front face having more flexibility toward the crown than toward the sole. This causes the "mass sweet spot" to be low on the face with the "face flexibility sweet spot" (maximum Coefficient of Restitution) higher on the face. The inventive concept of the present invention causes the club head to produce a ratio of higher launch angle with lower spin rate than otherwise possible with any other prior art club head. This is a ground breaking concept that has never been previously taught, and provides just what every golfer is looking for in a driver, i.e. "higher launch combined with lower spin means greater distance".

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

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Molitor fails to cure the deficiencies of Galloway, in that while both teach of a lowered center of gravity, neither teaches a lowered center of gravity combined with a higher flexible sweet spot. This is because it can only be accomplished with a front face that progressively thins from sole to crown in combination with a low center of gravity. There is no motivation to modify the references or any reasonable expectation of success in their combination.

The Examiner in his rejection cites as obvious that the maximum COR occurs in the center of the face. That's why the present invention is so non-obvious, because the design of the present invention allows the COR to much higher on the face.

The cancellation of many claims and the amendment of other claims, as herein presented, make moot many of the Examiner's rejections as they relate to the construction of the applicants club head being of multiple materials with a crown of composite or magnesium material. The material of the hosel has been removed from consideration in the new amended claims, as is the placement of a weight to lower the center of gravity. The inventive concept remains in the combination of a lowered center of gravity and a high flexible sweet spot that is due to a front face progressively thinning from sole to heel, therein achieving much higher launch angles with low spin rates.

The rejection under 35 U.S.C. § 103(a) is believed to have been overcome for at least the above reasons. Applicants respectfully request reconsideration and withdrawal thereof.

#### Conclusion

Based on the remarks set forth above, Applicants believe that all of the rejections have been overcome and the claims of the subject application are in condition for allowance. Should the Examiner have any further concerns or believe that a discussion with the Applicants' agent would further the prosecution of this application, the Examiner is encouraged to call the agent at the number below.

A fee of \$790 is believed to be due for this Request for Continued Examination submission. Please charge this and any other required fees to Acushnet Company Deposit Account No. 502309.

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March 23, 2006

Respectfully submitted,

  
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